

# SEQUENCE LISTING

## (1) GENERAL INFORMATION:

- (i) APPLICANT: White, Tyler R.  
Damm, Deborah  
Lesikar, David D.  
McFadden, Kathleen  
Garrick, Brett L.
- (ii) TITLE OF INVENTION: PROTEASE INHIBITOR PEPTIDES
- (iii) NUMBER OF SEQUENCES: 228
- (iv) CORRESPONDENCE ADDRESS:  
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(C) CITY: Washington  
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(E) COUNTRY: USA  
(F) ZIP: 20007-5109
- (v) COMPUTER READABLE FORM:  
(A) MEDIUM TYPE: Floppy disk  
(B) COMPUTER: IBM PC compatible  
(C) OPERATING SYSTEM: PC-DOS/MS-DOS  
(D) SOFTWARE: PatentIn Release #1.0, Version #1.30
- (vi) CURRENT APPLICATION DATA:  
(A) APPLICATION NUMBER: US 08/436,555  
(B) FILING DATE: 08-MAY-1995  
(C) CLASSIFICATION:
- (viii) ATTORNEY/AGENT INFORMATION:  
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(C) REFERENCE/DOCKET NUMBER: 56324/106/SCNO
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## (2) INFORMATION FOR SEQ ID NO:1:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

- (ii) MOLECULE TYPE: protein

- (xi) SEQUENCE DESCRIPTION: SEQ ID NO:1:

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Xaa Val Cys Ser Glu Gln Ala Glu Xaa Gly Xaa Cys Arg Ala Xaa Xaa
 1                               10                               15

Xaa Xaa Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Xaa
 20                               25                               30

Tyr Gly Gly Cys Xaa Xaa Xaa Xaa Asn Asn Phe Asp Thr Glu Glu Tyr
 35                               40                               45

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Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:2:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 5 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:2:

Glu Val Val Arg Glu  
1 5

(2) INFORMATION FOR SEQ ID NO:3:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:3:

Xaa Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Xaa Xaa  
1 5 10 15

Xaa Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
20 25 30

Tyr Gly Gly Cys Xaa Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
35 40 45

Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:4:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:4:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15

Arg Ala Xaa Xaa Xaa Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30

Ala Pro Phe Phe Tyr Gly Gly Cys Xaa Gly Asn Arg Asn Asn Phe Asp  
 35 40 45  
 Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55 60

(2) INFORMATION FOR SEQ ID NO:5:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 58 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:5:

Xaa Val Cys Ser Glu Gln Ala Glu Xaa Gly Pro Cys Arg Ala Xaa Xaa  
 1 5 10 15  
 Xaa Xaa Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe  
 20 25 30  
 Phe Tyr Gly Gly Cys Xaa Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu  
 35 40 45  
 Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55

(2) INFORMATION FOR SEQ ID NO:6:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 59 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:6:

Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala  
 1 5 10 15  
 Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro  
 20 25 30  
 Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu  
 35 40 45  
 Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55

(2) INFORMATION FOR SEQ ID NO:7:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 58 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:7:

Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala  
1 5 10 15

Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr  
20 25 30

Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala  
35 40 45

Glu Asp Cys Met Arg Thr Cys Gly Gly Ala  
50 55

(2) INFORMATION FOR SEQ ID NO:8:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:8:

Glu Val Val Arg  
1

(2) INFORMATION FOR SEQ ID NO:9:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 79 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:9:

TATGAAACAA AGCACTATTG CACTGGCACT CTTACCGTTA CTGTTTACCC CTGTGACAAA  
AGCCGAGGTG TGCTCTGAA

60

79

(2) INFORMATION FOR SEQ ID NO:10:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 67 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:10:

CTCGGCTTTT GTCACAGGGG TAAACAGTAA CGGTAAGAGT GCCAGTGCAA TAGTGCTTTG 60  
TTTCATA 67

(2) INFORMATION FOR SEQ ID NO:11:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:11:

CACGCTGAGA CCGGTCGGTG CCGTGCAATG ATCTCCCGCT GGTACTTTGA CGTCACTGAA 60  
GGTAAGTGCG CTCCATTCTT T 81

(2) INFORMATION FOR SEQ ID NO:12:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:12:

GCACTTACCT TCAGTGACGT CAAAGTACCA GCGGGAGATC ATTGCACGGC ACGGACCGGT 60  
CTCAGCTTGT TCAGAGCACA C 81

(2) INFORMATION FOR SEQ ID NO:13:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 81 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:13:

TACGGCGGTT GCGGCGGCAA CCGTAACAAC TTTGACACTG AAGAGTACTG CATGGCAGTG 60  
TGCGGATCCG CTATTTAAGC T 81

(2) INFORMATION FOR SEQ ID NO:14:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 93 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:14:

AGCTTAAATA GCGGATCCGC ACACTGCCAT GCAGTACTCT TCAGTGTCAA AGTTGTTACG 60  
 GTTCCGCCCG CAACCGCGT AAAAGAATGG AGC 93

(2) INFORMATION FOR SEQ ID NO:15:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 37 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:15:

CTAGATAAAA GAGAGGTGTG CTCTGAACAA GCTGAGA 37

(2) INFORMATION FOR SEQ ID NO:16:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 37 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:16:

CCGGTCTCAG CTTGTTGAGA GCACACCTCT CTTTTAT 37

(2) INFORMATION FOR SEQ ID NO:17:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 49 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:17:

CTAGATAAAA GAGAGGTTGT TAGAGAGGTG TGCTCTGAAC AAGCTGAGA 49

(2) INFORMATION FOR SEQ ID NO:18:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 49 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:18:

CCGGTCTCAG CTGTTCAGA GCACACCTCT CTAACAACCT CTCCTTTAT

49

(2) INFORMATION FOR SEQ ID NO:19:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 26 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:19:

GGGGGCAGCT GTATAACGA TTAATA

26

(2) INFORMATION FOR SEQ ID NO:20:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 30 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:20:

GGGGTCTAG AGATACCCCT TCTCTTTAG

30

(2) INFORMATION FOR SEQ ID NO:21:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 47 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:21:

CTAGATAAAA GAGAGGCTGA GGCTCAGCT GAAGGTACTT TCACTTC

47

(2) INFORMATION FOR SEQ ID NO:22:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 78 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:22:

TGACGTCTCT TCCTACTTGG AAGGTCAAGC TGCTAAGGAA TTCATCGCTT GGTGGTCAA 60  
AGGTAGAGGT TAAGCTTA 78

(2) INFORMATION FOR SEQ ID NO:23:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 52 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:23:

CTAGTAAGCT TAACCTCTAC CTTTGACCAA CCAAGCGATG AATTCCTTAG CA 52

(2) INFORMATION FOR SEQ ID NO:24:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 73 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:24:

GCTTGACCTT CCAAGTAAGA AGAGACGTCA GAAGTGAAG TACCTTCAGC GTGAGCCTCA 60  
GCCTCTCTTT TAT 73

(2) INFORMATION FOR SEQ ID NO:25:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)



(xi) SEQUENCE DESCRIPTION: SEQ ID NO:25:  
GTCCGTGCCG TGCAGCTATC TGCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:26:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 33 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:26:  
CAAAGTACCA GCGCCAGATA GCTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:27:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:27:  
GTCCGTGCCG TGCAGCTATC TACCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:28:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 33 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:28:  
CAAAGTACCA GCGGTAGATA GCTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:29:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 40 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear
- (ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:29:

GTCCGTGCCG TGCATTGATC TTCGCTGGT ACTTTGACGT

40

(2) INFORMATION FOR SEQ ID NO:30:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:30:

CAAAGTACCA GCGGAAGATC AATGCACGGC ACG

33

(2) INFORMATION FOR SEQ ID NO:31:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:31:

GTCCGTGCCG TGCTTTGATC TACCGCTGGT ACTTTGACGT

40

(2) INFORMATION FOR SEQ ID NO:32:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 33 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:32:

CAAAGTACCA GCGGTAGATC AAAGCACGGC ACG

33

(2) INFORMATION FOR SEQ ID NO:33:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 40 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:33:  
GTCCGTGCCG TGCAATGCAC TTCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:34:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:34:  
CAAAGTACCA GCGGAAGTGC ATTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:35:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:35:  
GTCCGTGCCG TGCAATGCAC TACCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:36:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:36:  
CAAAGTACCA GCGGTAGTGC ATTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:37:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:37:  
GTCCGTGCCG TGCAATGCAC TGGCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:38:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:38:  
CAAAGTACCA GCGCCAGTGC ATTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:39:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:39:  
GTCCGTGCCG TGCAGCTCAC TCCCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:40:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 33 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:40:  
CAAAGTACCA GCGGGAGTGA GCTGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:41:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 40 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:41:  
 GTCCGTGCCG TGCATTGCAC TCCCGCTGGT ACTTTGACGT 40

(2) INFORMATION FOR SEQ ID NO:42:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 33 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:42:  
 CAAAGTACCA GCGGGAGTGC AATGCACGGC ACG 33

(2) INFORMATION FOR SEQ ID NO:43:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 38 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:43:  
 GCCATCGATG GTTCTTAAAG CGTCAGGTGG CACTTTTC 38

(2) INFORMATION FOR SEQ ID NO:44:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 44 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:44:  
 GCGCCAATTC TTGGTCTACG GGGTCTGACG CTCAGTGGAA CGAA 44

(2) INFORMATION FOR SEQ ID NO:45:

(i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 12 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:45:

GGCCGCTCTT CC

12

(2) INFORMATION FOR SEQ ID NO:46:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 11 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:46:

AAAGGAAGAG C

11

(2) INFORMATION FOR SEQ ID NO:47:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 10 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:47:

CTAGAATTGC

10

(2) INFORMATION FOR SEQ ID NO:48:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 11 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:48:

GGCCGCAATT C

11

(2) INFORMATION FOR SEQ ID NO:49:

- (i) SEQUENCE CHARACTERISTICS:
  - (A) LENGTH: 36 base pairs
  - (B) TYPE: nucleic acid
  - (C) STRANDEDNESS: single
  - (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:49:

GCCGGATCCG CTATTTCGG TGGTGGCTCT GGTTC

36

(2) INFORMATION FOR SEQ ID NO:50:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 31 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:50:

GCCAAGCTTA TTAAGACTCC TTATTACGCA G

31

(2) INFORMATION FOR SEQ ID NO:51:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 39 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:51:

AGTCCGATC TAGGATCCGG TGGTGGCTCT GGTCCGGT

39

(2) INFORMATION FOR SEQ ID NO:52:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:52:

GCAGCGCCG TTAAGCTTAT TAAGATCCT

30

(2) INFORMATION FOR SEQ ID NO:53:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 27 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:53:  
GATCCTTGTG TCCATATGAA ACAAAGC 27

(2) INFORMATION FOR SEQ ID NO:54:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 39 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:54:  
CACGTCGGTC GAGGATCCCT AACCACGGCC TTTAACCAAG 39

(2) INFORMATION FOR SEQ ID NO:55:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 74 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:55:  
TATGAAACAA AGCACTATTG CACTGGCACT CITACGTTA CTGTTTACCC CGGTGACCAA 60  
AGCCCACGCT GAAG 74

(2) INFORMATION FOR SEQ ID NO:56:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 76 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:56:  
GTACCTTCAG CGTGGGCTTT GGTCAACGGG GTAAACAGTA ACGGTAAGAG TGCCAGTGCA 60  
ATAGTGCTTT GTTTCA 76

(2) INFORMATION FOR SEQ ID NO:57:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 27 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear



(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:57:

CCGGACGCGT GGAGATTATC GTCACCTG

27

(2) INFORMATION FOR SEQ ID NO:58:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 29 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:58:

GCTTIGGTCA CCGGGGTAAA CAGTAACGG

29

(2) INFORMATION FOR SEQ ID NO:59:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:59:

CTGTTTACCC CGGTGACCAA AGCCGAGGTG TGCTCTGAAC AA

42

(2) INFORMATION FOR SEQ ID NO:60:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:60:

AATAGCGGAT CCGCACACTG CCATGCAGTA CTCTTC

36

(2) INFORMATION FOR SEQ ID NO:61:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 35 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:61:

GCITTTAAACC GGTAGGTGGC CCGGCTCCAT GCACC

35

(2) INFORMATION FOR SEQ ID NO:62:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 36 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:62:

CGAATTCACC GGTGTCATCC TCGGCACCGT CACCCT

36

(2) INFORMATION FOR SEQ ID NO:63:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 42 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:63:

GGGCTGAGAC CGGTCCGTGC CGTNCGCTGG TACTTTGACG TC

42

(2) INFORMATION FOR SEQ ID NO:64:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 30 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:64:

GGAATAGCGG ATCCGCACAC TGCCATGCAG

30

(2) INFORMATION FOR SEQ ID NO:65:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 4 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: peptide

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:65:

Ala Ala Ile Phe  
1

(2) INFORMATION FOR SEQ ID NO:66:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 41 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:66:

GCTGAGACCG GTCCGTGCCG TNCANTGGT ACTTTGACGT C

41

(2) INFORMATION FOR SEQ ID NO:67:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 37 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:67:

GCTGAGACCG GTCCGTGCCG TNTGGTACTT TGACGTC

37

(2) INFORMATION FOR SEQ ID NO:68:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 52 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:68:

CTAGATAAAA GAGAGGTGTG TAGAGAGGTG TGCTCTGAAC AAGCTGAGGT TG

52

(2) INFORMATION FOR SEQ ID NO:69:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 51 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single

1076604.021902

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:69:

GACCAACCTC AGCTTGTTC A GACACACCT CTCTAACAACT CTCTCTTTTA T 51

(2) INFORMATION FOR SEQ ID NO:70:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:70:

CACTGAAGGT AAGTGCCTC CATTCTTTTA CGGCGGTTGC TACGGCAACC GTAACAACTT 60

TGACACTGAA GAGTACTGCA TGGCAGTGTG CG 92

(2) INFORMATION FOR SEQ ID NO:71:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 100 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:71:

GATCCGCACA CTGCCATGCA GTACTCTTCA GTGTCAAAGT TGTTACGGTT GCCGTAGCAA 60

CCGCCGTAAA AGAATGGAGC GCATTACCT TCACTGACGT 100

(2) INFORMATION FOR SEQ ID NO:72:

(i) SEQUENCE CHARACTERISTICS:

(A) LENGTH: 92 base pairs

(B) TYPE: nucleic acid

(C) STRANDEDNESS: single

(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:72:

CACTGAAGGT AAGTGCCTC CATTCTTTTA CGGCGGTTGC TTGGGCAACC GTAACAACTT 60

TGACACTGAA GAGTACTGCA TGGCAGTGTG CG 92

(2) INFORMATION FOR SEQ ID NO:73:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 100 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:73:

GATCCGCACA CTGCCATGCA GTACTCTTCA GTGTCAAAGT TGTACGGTT GCCCAAGCAA 60  
CCGCCGTAAG AAAATGGAGC GCACCTACCT TCAGTGACGT 100

(2) INFORMATION FOR SEQ ID NO:74:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 237 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 2..235

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:74:

T ATG AAA CAA AGC ACT ATT GCA CTG GCA CTC TTA CCG TTA CTG TTT 46  
Met Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe  
1 5 10 15  
ACC CCT GTG ACA AAA GCC GAG GTG TGC TCT GAA CAA GCT GAG ACC GGT 94  
Thr Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly  
20 25 30  
CCG TGC CGT GCA ATG ATC TCC CGC TGG TAC TTT GAC GTC ACT GAA GGT 142  
Pro Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly  
35 40 45  
AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT AAC AAC 190  
Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn  
50 55 60  
TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GCT ATT 235  
Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
65 70 75  
TA 237

(2) INFORMATION FOR SEQ ID NO:75:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 78 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:75:

Met Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr  
1 5 10 15  
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro  
20 25 30  
Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys  
35 40 45  
Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe  
50 55 60  
Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
65 70 75

(2) INFORMATION FOR SEQ ID NO:76:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 185 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..183

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:76:

CTA GAT AAA AGA GAG GTG TGC TCT GAA CAA GCT GAG ACC GGT CCG TGC 48  
Leu Asp Lys Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
80 85 90  
CGT GCA ATG ATC TCC CGC TGG TAC TTT GAC GTC ACT GAA GGT AAG TGC 96  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
95 100 105 110  
GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT AAC AAC TTT GAC 144  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
115 120 125  
ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GCT ATT TA 185  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
130 135

(2) INFORMATION FOR SEQ ID NO:77:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:77:

Leu Asp Lys Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15

Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
 20 25 30  
 Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
 35 40 45  
 Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55 60

(2) INFORMATION FOR SEQ ID NO:78:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 197 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CD8  
 (B) LOCATION: 1..195

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:78:

CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT GAG	48
Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu	
65 70 75	
ACC GGT CCG TGC CGT GCA ATG ATC TCC CGC TGG TAC TTT GAC GTC ACT	96
Thr Gly Pro Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr	
80 85 90	
GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT	144
Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg	
95 100 105	
AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GCT	192
Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala	
110 115 120 125	
ATT TA	197
Ile	

(2) INFORMATION FOR SEQ ID NO:79:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 65 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:79:

Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu	
1 5 10 15	
Thr Gly Pro Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr	
20 25 30	
Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg	
35 40 45	

Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala  
 50 55 60

Ile  
 65

(2) INFORMATION FOR SEQ ID NO:80:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 445 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS  
 (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:80:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC	48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
70 75 80	
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA	96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
85 90 95	
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
100 105 110	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
115 120 125	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
130 135 140 145	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
150 155 160	
GAG ACC GGT CCG TGC CGT GCA ATG ATC TCC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val	
165 170 175	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
180 185 190	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
195 200 205	
GCT ATT TAAGCTT	445
Ala Ile	
210	

(2) INFORMATION FOR SEQ ID NO:81:



- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 146 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:81:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser  
 1 5 10 15  
 Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln  
 20 25 30  
 Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe  
 35 40 45  
 Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu  
 50 55 60  
 Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val  
 65 70 75 80  
 Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala  
 85 90 95  
 Glu Thr Gly Pro Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val  
 100 105 110  
 Thr Glu Gly Lys Cys Ala Pro Phe Tyr Gly Gly Cys Gly Gly Asn  
 115 120 125  
 Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
 130 135 140  
 Ala Ile  
 145

(2) INFORMATION FOR SEQ ID NO:82:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 445 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
 (A) NAME/KEY: CDS  
 (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:82:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC 48  
 Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser  
 150 155 160  
 GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA 96  
 Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln  
 165 170 175

ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe 180 185 190	144
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu 195 200 205 210	192
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val 215 220 225	240
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala 230 235 240	288
GAG ACC GGT CCG TGC CGT GCA GCT ATC TGG CGC TGG TAC TTT GAC GTC Glu Thr Gly Pro Cys Arg Ala Ala Ile Trp Arg Trp Phe Asp Val 245 250 255	336
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Gly Asn 260 265 270	384
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser 275 280 285 290	432
GCT ATT TAAGCTT Ala Ile	445

## (2) INFORMATION FOR SEQ ID NO:83:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids  
(B) TYPE: amino acid  
(D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:83:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser 1 5 10 15
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln 20 25 30
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe 35 40 45
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu 50 55 60
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val 65 70 75 80
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala 85 90 95
Glu Thr Gly Pro Cys Arg Ala Ala Ile Trp Arg Trp Tyr Phe Asp Val 100 105 110
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn 115 120 125

Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140

Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:84:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 445 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:84:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC	48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
150 155 160	
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA	96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
165 170 175	
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA GCT ATC TAC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Ala Ile Tyr Arg Trp Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:85:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:85:

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Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
1           5           10           15
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
20           25           30
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe
35           40           45
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu
50           55           60
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val
65           70           75           80
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala
85           90           95
Glu Thr Gly Pro Cys Arg Ala Ala Ile Tyr Arg Trp Tyr Phe Asp Val
100          105          110
Thr Glu Gly Lys Cys Ala Pro Phe Thr Tyr Gly Gly Cys Gly Gly Asn
115          120          125
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser
130          135          140
Ala Ile
145

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(2) INFORMATION FOR SEQ ID NO:86:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 445 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:86:

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ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC      48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
150           155           160
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA      96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
165           170           175

```

ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA TTG ATC TTC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Leu Ile Phe Arg Trp Tyr Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

## (2) INFORMATION FOR SEQ ID NO:87:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:87:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
1 5 10 15	
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
20 25 30	
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
35 40 45	
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
50 55 60	
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
65 70 75 80	
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
85 90 95	
Glu Thr Gly Pro Cys Arg Ala Leu Ile Phe Arg Trp Tyr Phe Asp Val	
100 105 110	
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
115 120 125	

Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140

Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:88:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 445 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:88:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC	48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
150 155 160	
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA	96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
165 170 175	
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA TTG ATC TAC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Leu Ile Tyr Arg Trp Tyr Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:89:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 146 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:89:

```

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
 1           5           10           15

Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
 20           25           30

Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe
 35           40           45

Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu
 50           55           60

Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val
 65           70           75           80

Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala
 85           90           95

Glu Thr Gly Pro Cys Arg Ala Leu Ile Tyr Arg Trp Tyr Phe Asp Val
100           105           110

Thr Glu Gly Lys Cys Ala Pro Phe Tyr Gly Gly Cys Gly Gly Asn
115           120           125

Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser
130           135           140

Ala Ile
145

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(2) INFORMATION FOR SEQ ID NO:90:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 445 base pairs  
 (B) TYPE: nucleic acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS  
 (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:90:

```

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC      48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
      150           155           160

GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA      96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
      165           170           175

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ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA ATG CAC TTC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Met His Phe Arg Trp Tyr Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:91:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:91:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
1 5 10 15	
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
20 25 30	
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
35 40 45	
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
50 55 60	
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
65 70 75 80	
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
85 90 95	
Glu Thr Gly Pro Cys Arg Ala Met His Phe Arg Trp Tyr Phe Asp Val	
100 105 110	
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
115 120 125	



Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140

Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:92:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 445 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:92:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser 150 155 160	48
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Thr Glu Asp Glu Thr Ala Gln 165 170 175	96
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe 180 185 190	144
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu 195 200 205 210	192
TTT ATA AAT ACT ACT ATT GCT AGC ATT GCT GCT AAA GAA GAA GGG GTA Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val 215 220 225	240
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala 230 235 240	288
GAG ACC GGT CCG TGC CGT GCA ATG CAC TAC CGC TGG TAC TTT GAC GTC Glu Thr Gly Pro Cys Arg Ala Met His Tyr Arg Trp Phe Asp Val 245 250 255	336
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn 260 265 270	384
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser 275 280 285 290	432
GCT ATT TAAGCTT Ala Ile	445

(2) INFORMATION FOR SEQ ID NO:93:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:93:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser  
1 5 10 15  
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln  
20 25 30  
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe  
35 40 45  
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu  
50 55 60  
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val  
65 70 75 80  
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala  
85 90 95  
Glu Thr Gly Pro Cys Arg Ala Met His Tyr Arg Trp Tyr Phe Asp Val  
100 105 110  
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn  
115 120 125  
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140  
Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:94:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 445 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:94:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC 48  
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser  
150 155 160  
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA 96  
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln  
165 170 175

ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Phe Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA ATG CAC TGG CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Met His Trp Arg Trp Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

## (2) INFORMATION FOR SEQ ID NO:95:

## (i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids  
 (B) TYPE: amino acid  
 (D) TOPOLOGY: linear

## (ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:95:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
1 5 10 15	
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
20 25 30	
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
35 40 45	
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
50 55 60	
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
65 70 75 80	
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
85 90 95	
Glu Thr Gly Pro Cys Arg Ala Met His Trp Arg Trp Tyr Phe Asp Val	
100 105 110	
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
115 120 125	

Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140

Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:96:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 445 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:96:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC	48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
150 155 160	
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA	96
Ala Leu Ala Ala Pro Val Asn Thr Thr Glu Asp Glu Thr Ala Gln	
165 170 175	
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA GCT CAC TCC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Ala His Ser Arg Trp Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:97:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:97:

```

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
 1             5             10             15
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
                20             25             30
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe
          35             40             45
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu
          50             55             60
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val
 65             70             75             80
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala
          85             90             95
Glu Thr Gly Pro Cys Arg Ala Ala His Ser Arg Trp Tyr Phe Asp Val
          100            105
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn
          115            120
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser
          130            135            140
Ala Ile
145

```

(2) INFORMATION FOR SEQ ID NO:98:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 445 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:98:

```

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC      48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser
          150             155             160
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA      96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln
          165             170             175

```

ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
180 185 190	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
195 200 205 210	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
215 220 225	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
230 235 240	
GAG ACC GGT CCG TGC CGT GCA TTG CAC TCC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Leu His Ser Arg Trp Tyr Phe Asp Val	
245 250 255	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
260 265 270	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
275 280 285 290	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:99:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:99:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
1 5 10 15	
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
20 25 30	
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
35 40 45	
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
50 55 60	
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
65 70 75 80	
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
85 90 95	
Glu Thr Gly Pro Cys Arg Ala Leu His Ser Arg Trp Tyr Phe Asp Val	
100 105 110	
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
115 120 125	

Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140

Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:100:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 704 base pairs
- (B) TYPE: nucleic acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

(ix) FEATURE:

- (A) NAME/KEY: CDS
- (B) LOCATION: 1..699

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:100:

GTG AAA CAA AGC ACT ATT GCA CTG GCA CTC TTA CCG TTA CTG TTT ACC	48
Val Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr	
150 155 160	
CCG GTG ACC AAA GCC GAG GTG TGC TCT GAA CAA GCT GAG ACC GGT CCG	96
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro	
165 170 175	
TGC CGT GCA ATG ATC TCC CGC TGG TAC TTT GAC GTC ACT GAA GGT AAG	144
Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys	
180 185 190	
TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT AAC AAC TTT	192
Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe	
195 200 205 210	
GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GGT GGT GGC TCT	240
Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Gly Ser	
215 220 225	
GGT TCC GGT GAT TTT GAT TAT GAA AAG ATG GCA AAC GCT AAT AAG GGG	288
Gly Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly	
230 235 240	
GCT ATG ACC GAA AAT GCC GAT GAA AAC GCG CTA CAG TCT GAC GCT AAA	336
Ala Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asp Ala Lys	
245 250 255	
GGC AAA CTT GAT TCT GTC GCT ACT GAT TAC GGT GCT GCT ATC GAT GGT	384
Gly Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly	
260 265 270	
TTC ATT GGT GAC GTT TCC GGC CTT GCT AAT GGT AAT GGT GCT ACT GGT	432
Phe Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly	
275 280 285 290	
GAT TTT GCT GGC TCT AAT TCC CAA ATG GCT CAA GTC GGT GAC GGT GAT	480
Asp Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp	
295 300 305	
AAT TCA CCT TTA ATG AAT AAT TTC CGT CAA TAT TTA CCT TCC CTC CCT	528
Asn Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro	
310 315 320	

CAA TCG GTT GAA TGT CGC CCT TTT GTC TTT GGC GCT GGT AAA CCA TAC	576
Gln Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr	
325 330 335	
GAA TTT TCT ATT GAT TGT GAC AAA ATA AAC TTA TTC CGT GGT GTC TTT	624
Glu Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe	
340 345 350	
GCG TTT CTT TTA TAT GTT GCC ACC TTT ATG TAT GTA TTT TCT ACG TTT	672
Ala Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe	
355 360 365 370	
GCT AAC ATA CTG CGT AAT AAG GAG TCT TAATA	704
Ala Asn Ile Leu Arg Asn Lys Glu Ser	
375	

(2) INFORMATION FOR SEQ ID NO:101:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 233 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:101:

Val Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr	
1 5 10 15	
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro	
20 25 30	
Cys Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys	
35 40 45	
Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe	
50 55 60	
Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Gly Ser	
65 70 75 80	
Gly Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly	
85 90 95	
Ala Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asp Ala Lys	
100 105 110	
Gly Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly	
115 120 125	
Phe Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly	
130 135 140	
Asp Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp	
145 150 155 160	
Asn Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro	
165 170 175	
Gln Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr	
180 185 190	
Glu Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe	
195 200 205	



Ala Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe  
210 215 220

Ala Asn Ile Leu Arg Asn Lys Glu Ser  
225 230

(2) INFORMATION FOR SEQ ID NO:102:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 701 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..696

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:102:

GTG AAA CAA AGC ACT ATT GCA CTG GCA CTC TTA CCG TTA CTG TTT ACC	48
Val Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr	
235 240 245	
CCG GTG ACC AAA GCC GAG GTG TGC TCT GAA CAA GCT GAG ACC GGT CCG	96
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro	
250 255 260 265	
TGC CGT NNS NNS NNS NNS TGG TAC TTT GAC GTC ACT GAA GGT AAG TGC	144
Cys Arg Xaa Xaa Xaa Xaa Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys	
270 275 280	
GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT AAC AAC TTT GAC	192
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp	
285 290 295	
ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GGT GGT GGC TCT GGT	240
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Ser Gly	
300 305 310	
TCC GGT GAT TTT GAT TAT GAA AAG ATG GCA AAC GCT AAT AAG GGG GCT	288
Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly Ala	
315 320 325	
ATG ACC GAA AAT GCC GAT GAA AAC GCG CTA CAG TCT GAC GCT AAA GGC	336
Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Ser Asp Ala Lys Gly	
330 335 340 345	
AAA CTT GAT TCT GTC GCT ACT GAT TAC GGT GCT GCT ATC GAT GGT TTC	384
Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Phe	
350 355 360	
ATT GGT GAC GTT TCC GGC CTT GCT AAT GGT AAT GGT GCT ACT GGT GAT	432
Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly Asp	
365 370 375	
TTT GCT GGC TCT AAT TCC CAA ATG GCT CAA GTC GGT GAC GGT GAT AAT	480
Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp Asn	
380 385 390	
TCA CCT TTA ATG AAT AAT TTC CGT CAA TAT TTA CCT TCC CTC CCT CAA	528
Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro Gln	
395 400 405	

TCG GTT GAA TGT CGC CCT TTT GTC TTT GGC GCT GGT AAA CCA TAC GAA 576  
 Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr Glu 425  
 410 415 420

TTT TCT ATT GAT TGT GAC AAA ATA AAC TTA TTC CGT GGT GTC TTT GCG 624  
 Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe Ala 440  
 430 435 440

TTT CTT TTA TAT GTT GCC ACC TTT ATG TAT GTA TTT TCT ACG TTT GCT 672  
 Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe Ala 455  
 445 450 455

AAC ATA CTG CGT AAT AAG GAG TCT TAATA 701  
 Asn Ile Leu Arg Asn Lys Glu Ser 460 465

(2) INFORMATION FOR SEQ ID NO:103:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 232 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:103:

Val Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr  
 1 5 10 15

Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro  
 20 25 30

Cys Arg Xaa Xaa Xaa Xaa Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
 35 40 45

Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
 50 55 60

Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Gly Ser Gly  
 65 70 75 80

Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly Ala  
 85 90 95

Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asp Ala Lys Gly  
 100 105 110

Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly Phe  
 115 120 125

Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly Asp  
 130 135 140

Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp Asn  
 145 150 155 160

Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro Gln  
 165 170 175

Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr Glu  
 180 185 190

Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe Ala  
 195 200 205

Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe Ala  
210 215 220

Asn Ile Leu Arg Asn Lys Glu Ser  
225 230

(2) INFORMATION FOR SEQ ID NO:104:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 704 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..699

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:104:

GTG AAA CAA AGC ACT ATT GCA CTG GCA CTC TTA CCG TTA CTG TTT ACC	48
Val Lys Gln Ser Thr Ile Ala Leu Leu Pro Leu Leu Phe Thr	
235 240 245	
CCG GTG ACC AAA GCC GAG GTG TGC TCT GAA CAA GCT GAG ACC GGT CCG	96
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro	
250 255 260	
TGC CGT GCA GCT ATC TTC CGC TGG TAC TTT GAC GTC ACT GAA GGT AAG	144
Cys Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys	
265 270 275 280	
TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC CGT AAC AAC TTT	192
Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Asn Arg Asn Asn Phe	
285 290 295	
GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC GGT GGT GGC TCT	240
Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Ser	
300 305 310	
GGT TCC GGT GAT TTT GAT TAT GAA AAG ATG GCA AAC GCT AAT AAG GGG	288
Gly Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly	
315 320 325	
GCT ATG ACC GAA AAT GCC GAT GAA AAC GCG CTA CAG TCT GAC GCT AAA	336
Ala Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asn Ala Lys	
330 335 340	
GGC AAA CTT GAT TCT GTC GCT ACT GAT TAC GGT GCT GCT ATC GAT GGT	384
Gly Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly	
345 350 355 360	
TTT ATT GGT GAC GTT TCC GGC CTT GCT AAT GGT AAT GGT GCT ACT GGT	432
Phe Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly	
365 370 375	
GAT TTT GCT GGC TCT AAT TCC CAA ATG GCT CAA GTC GGT GAC GGT GAT	480
Asp Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp	
380 385 390	
AAT TCA CCT TTA ATG AAT AAT TTC CGT CAA TAT TTA CCT TCC CTC CCT	528
Asn Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro	
395 400 405	

CAA TCG GTT GAA TGT CGC CCT TTT GTC TTT GGC GCT GGT AAA CCA TAC	576
Gln Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr	
110 415 420	
GAA TTT TCT ATT GAT TGT GAC AAA ATA AAC TTA TTC CGT GGT GTC TTT	624
Glu Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe	
425 430 435 440	
GCG TTT CTT TTA TAT GTT GCC ACC TTT ATG TAT GTA TTT TCT ACG TTT	672
Ala Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe	
445 450 455	
GCT AAC ATA CTG CGT AAT AAG GAG TCT TAATA	704
Ala Asn Ile Leu Arg Asn Lys Glu Ser	
460 465	

(2) INFORMATION FOR SEQ ID NO:105:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 233 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:105:

Val Lys Gln Ser Thr Ile Ala Leu Ala Leu Leu Pro Leu Leu Phe Thr	
1 5 10 15	
Pro Val Thr Lys Ala Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro	
20 25 30	
Cys Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys	
35 40 45	
Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe	
50 55 60	
Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Gly Gly Gly Ser	
65 70 75 80	
Gly Ser Gly Asp Phe Asp Tyr Glu Lys Met Ala Asn Ala Asn Lys Gly	
85 90 95	
Ala Met Thr Glu Asn Ala Asp Glu Asn Ala Leu Gln Ser Asp Ala Lys	
100 105 110	
Gly Lys Leu Asp Ser Val Ala Thr Asp Tyr Gly Ala Ala Ile Asp Gly	
115 120 125	
Phe Ile Gly Asp Val Ser Gly Leu Ala Asn Gly Asn Gly Ala Thr Gly	
130 135 140	
Asp Phe Ala Gly Ser Asn Ser Gln Met Ala Gln Val Gly Asp Gly Asp	
145 150 155 160	
Asn Ser Pro Leu Met Asn Asn Phe Arg Gln Tyr Leu Pro Ser Leu Pro	
165 170 175	
Gln Ser Val Glu Cys Arg Pro Phe Val Phe Gly Ala Gly Lys Pro Tyr	
180 185 190	
Glu Phe Ser Ile Asp Cys Asp Lys Ile Asn Leu Phe Arg Gly Val Phe	
195 200 205	

Ala Phe Leu Leu Tyr Val Ala Thr Phe Met Tyr Val Phe Ser Thr Phe  
210 215 220

Ala Asn Ile Leu Arg Asn Lys Glu Ser  
225 230

(2) INFORMATION FOR SEQ ID NO:106:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 445 base pairs  
(B) TYPE: nucleic acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: DNA (genomic)

- (ix) FEATURE:  
(A) NAME/KEY: CDS  
(B) LOCATION: 1..438

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:106:

ATG AGA TTT CCT TCA ATT TTT ACT GCA GTT TTA TTC GCA GCA TCC TCC	48
Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser	
235 240 245	
GCA TTA GCT GCT CCA GTC AAC ACT ACA ACA GAA GAT GAA ACG GCA CAA	96
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln	
250 255 260 265	
ATT CCG GCT GAA GCT GTC ATC GGT TAC TTA GAT TTA GAA GGG GAT TTC	144
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe	
270 275 280	
GAT GTT GCT GTT TTG CCA TTT TCC AAC AGC ACA AAT AAC GGG TTA TTG	192
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu	
285 290 295	
TTT ATA AAT ACT ACT ATT GCC AGC ATT GCT GCT AAA GAA GAA GGG GTA	240
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val	
300 305 310	
TCT CTA GAT AAA AGA GAG GTT GTT AGA GAG GTG TGC TCT GAA CAA GCT	288
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala	
315 320 325	
GAG ACC GGT CCG TGC CGT GCA GCT ATC TTC CGC TGG TAC TTT GAC GTC	336
Glu Thr Gly Pro Cys Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val	
330 335 340 345	
ACT GAA GGT AAG TGC GCT CCA TTC TTT TAC GGC GGT TGC GGC GGC AAC	384
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn	
350 355 360	
CGT AAC AAC TTT GAC ACT GAA GAG TAC TGC ATG GCA GTG TGC GGA TCC	432
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser	
365 370 375	
GCT ATT TAAGCTT	445
Ala Ile	

(2) INFORMATION FOR SEQ ID NO:107:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 146 amino acids
- (B) TYPE: amino acid
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:107:

Met Arg Phe Pro Ser Ile Phe Thr Ala Val Leu Phe Ala Ala Ser Ser  
1 5 10 15  
Ala Leu Ala Ala Pro Val Asn Thr Thr Thr Glu Asp Glu Thr Ala Gln  
20 25 30  
Ile Pro Ala Glu Ala Val Ile Gly Tyr Leu Asp Leu Glu Gly Asp Phe  
35 40 45  
Asp Val Ala Val Leu Pro Phe Ser Asn Ser Thr Asn Asn Gly Leu Leu  
50 55 60  
Phe Ile Asn Thr Thr Ile Ala Ser Ile Ala Ala Lys Glu Glu Gly Val  
65 70 75 80  
Ser Leu Asp Lys Arg Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala  
85 90 95  
Glu Thr Gly Pro Cys Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val  
100 105 110  
Thr Glu Gly Lys Cys Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn  
115 120 125  
Arg Asn Asn Phe Asp Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser  
130 135 140  
Ala Ile  
145

(2) INFORMATION FOR SEQ ID NO:108:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 58 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:108:

Arg Pro Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Lys Ala  
1 5 10 15  
Arg Ile Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr  
20 25 30  
Phe Val Tyr Gly Gly Cys Arg Ala Lys Arg Asn Asn Phe Lys Ser Ala  
35 40 45  
Glu Asp Cys Met Arg Thr Cys Gly Gly Ala  
50 55

(2) INFORMATION FOR SEQ ID NO:109:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 56 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:109:

```
Asp Phe Cys Leu Glu Pro Pro Tyr Thr Gly Pro Cys Arg Ala Arg Ile
 1           5           10           15
Ile Arg Tyr Phe Tyr Asn Ala Lys Ala Gly Leu Cys Gln Thr Phe Val
          20           25           30
Tyr Gly Gly Cys Arg Ala Lys Ser Asn Asn Phe Lys Ser Ala Glu Asp
      35           40           45
Cys Met Arg Thr Cys Gly Gly Ala
 50           55
```

(2) INFORMATION FOR SEQ ID NO:110:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:110:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1           5           10           15
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
          20           25           30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
      35           40           45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
 50           55           60
```

(2) INFORMATION FOR SEQ ID NO:111:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:111:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Pro Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:112:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:112:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Val Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:113:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:113:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Ser Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:114:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:114:

```
Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Lys Ala Met Ile
 1              5              10              15

Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
          20              25              30

Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr
          35              40              45

Cys Met Ala Val Cys Gly Ser Ala Ile
 50              55
```

(2) INFORMATION FOR SEQ ID NO:115:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:115:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1              5              10              15

Arg Gly Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
          20              25              30

Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
          35              40              45

Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50              55              60
```

(2) INFORMATION FOR SEQ ID NO:116:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:116:

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Arg Ile  
1 5 10 15  
Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
20 25 30  
Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
35 40 45  
Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:117:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:117:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:118:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:118:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ile Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:119:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:119:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:120:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:120:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ser Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:121:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:121:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Val Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:122:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:122:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Gly Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:123:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:123:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met His Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:124:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:124:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ala Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:125:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:125:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Phe Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:126:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:126:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Lys Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:127:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:127:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Leu Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:128:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:128:

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile  
1 5 10 15  
Ile Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
20 25 30  
Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
35 40 45  
Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:129:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: prptein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:129:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Pro Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:130:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:130:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:131:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:131:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:132:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:132:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Trp Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:133:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:133:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Leu Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:134:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:134:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1          5          10          15
Arg Ala Met Ile His Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
          20          25          30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
          35          40          45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50          55          60
```

(2) INFORMATION FOR SEQ ID NO:135:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:135:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1          5          10          15
Arg Ala Met Ile Glu Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
          20          25          30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
          35          40          45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50          55          60
```

(2) INFORMATION FOR SEQ ID NO:136:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:136:

Glu	Val	Val	Arg	Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys
1				5					10					15	
Arg	Ala	Met	Ile	Gln	Arg	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys
			20					25					30		
Ala	Pro	Phe	Phe	Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp
		35					40					45			
Thr	Glu	Glu	Tyr	Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Ile			
	50					55						60			

(2) INFORMATION FOR SEQ ID NO:137:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:137:

Glu	Val	Val	Arg	Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys
1				5					10					15	
Arg	Ala	Met	Ile	Ser	Ala	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys
			20					25					30		
Ala	Pro	Phe	Phe	Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp
		35					40					45			
Thr	Glu	Glu	Tyr	Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Ile			
	50					55						60			

(2) INFORMATION FOR SEQ ID NO:138:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:138:

Glu	Val	Val	Arg	Glu	Val	Cys	Ser	Glu	Gln	Ala	Glu	Thr	Gly	Pro	Cys
1				5					10					15	
Arg	Ala	Met	Ile	Ser	Thr	Trp	Tyr	Phe	Asp	Val	Thr	Glu	Gly	Lys	Cys
			20					25					30		
Ala	Pro	Phe	Phe	Tyr	Gly	Gly	Cys	Gly	Gly	Asn	Arg	Asn	Asn	Phe	Asp
		35					40					45			
Thr	Glu	Glu	Tyr	Cys	Met	Ala	Val	Cys	Gly	Ser	Ala	Ile			
	50					55						60			

(2) INFORMATION FOR SEQ ID NO:139:

- (i) SEQUENCE CHARACTERISTICS:  
.. (A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:139:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:140:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:140:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Lys Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:141:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:141:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Leu Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:142:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:142:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Val Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:143:

(i) SEQUENCE CHARACTERISTICS:

- (A) LENGTH: 61 amino acids
- (B) TYPE: amino acid
- (C) STRANDEDNESS: single
- (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:143:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Leu Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:144:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:144:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Gly Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:145:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:145:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Ala Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:146:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:146:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Lys Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:147:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:147:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Leu Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:148:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:148:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Met Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:149:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:149:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1             5             10
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20             25             30
Ala Pro Phe Phe Tyr Gly Gly Cys Asn Gly Asn Arg Asn Asn Phe Asp
                35             40             45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
 50             55             60
```

(2) INFORMATION FOR SEQ ID NO:150:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:150:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1             5             10             15
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20             25             30
Ala Pro Phe Phe Tyr Gly Gly Cys Pro Gly Asn Arg Asn Asn Phe Asp
                35             40             45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
 50             55             60
```

(2) INFORMATION FOR SEQ ID NO:151:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:151:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gln Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:152:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:152:

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile  
1 5 10 15  
Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
20 25 30  
Tyr Gly Gly Cys Arg Gly Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
35 40 45  
Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:153:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:153:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Cys Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:154:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:154:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Ser Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:155:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:155:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Thr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:156:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:156:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Val Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:157:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:157:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:158:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:158:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Asp Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:159:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:159:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Glu Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:160:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:160:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys His Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:161:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:161:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Ile Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:162:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:162:

Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile  
1 5 10 15  
Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe  
20 25 30  
Tyr Gly Gly Cys Gly Ala Asn Arg Asn Asn Phe Asp Thr Glu Glu Tyr  
35 40 45  
Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55

(2) INFORMATION FOR SEQ ID NO:163:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:163:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Arg Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:164:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:164:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1          5          10          15
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
          20          25          30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Ala Arg Asn Asn Phe Asp
          35          40          45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50          55          60
```

(2) INFORMATION FOR SEQ ID NO:165:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 57 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:165:

```
Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys Arg Ala Met Ile
1          5          10          15
Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys Ala Pro Phe Phe
          20          25          30
Tyr Gly Gly Cys Gly Gly Asn Ser Asn Asn Phe Asp Thr Glu Glu Tyr
          35          40          45
Cys Met Ala Val Cys Gly Ser Ala Ile
          50          55
```

(2) INFORMATION FOR SEQ ID NO:166:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:166:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1           5           10           15
Arg Ala Met Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
20           25           30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Ala Asn Asn Phe Asp
35           40           45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
50           55           60
```

(2) INFORMATION FOR SEQ ID NO:167:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:167:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1           5           10           15
Arg Ala Ala His Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
20           25           30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
35           40           45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
50           55           60
```

(2) INFORMATION FOR SEQ ID NO:168:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:168:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
1           5           10           15
Arg Ala Leu His Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
20           25           30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
35           40           45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
50           55           60
```

(2) INFORMATION FOR SEQ ID NO:169:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:169:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Leu Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:170:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:170:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Phe Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:171:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:171:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:172:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:172:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Trp Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:173:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:173:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:174:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:174:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:175:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:175:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Leu Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:176:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:176:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Pro Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:177:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:177:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:178:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:178:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Gly Ile Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:179:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:179:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1             5             10
Arg Ala Gly Ile Trp Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20             25             30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
                35             40             45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50             55             60
```

(2) INFORMATION FOR SEQ ID NO:180:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:180:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1             5             10
Arg Ala Gly Ile Pro Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20             25             30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
                35             40             45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
          50             55             60
```

(2) INFORMATION FOR SEQ ID NO:181:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:181:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Ser Ala Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:182:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:182:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Ser Ala Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:183:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:183:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Arg Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:184:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:184:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:185:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:185:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met His Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:186:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:186:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met His Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:187:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:187:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met His Trp Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:188:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:188:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Leu His Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:189:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:189:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met His Ser Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:190:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:190:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:191:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:191:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Tyr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:192:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:192:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Met Ile Trp Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:193:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:193:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Pro Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Leu Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:194:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:194:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Gly Tyr Ile Thr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:195:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:195:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu His Asn Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:196:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:196:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala His Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:197:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:197:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu His Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:198:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:198:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Leu Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:199:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:199:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Phe Thr Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:200:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:200:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Phe Lys Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:201:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:201:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Phe Phe Lys Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:202:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:202:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Phe Ser Ala Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:203:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:203:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Leu Ser Ala Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:204:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:204:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Trp His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:205:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:205:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Phe Ala Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:206:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:206:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:207:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:207:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile His Lys Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:208:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:208:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:209:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:209:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Gln His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:210:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:210:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Tyr Lys Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:211:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:211:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Gln His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:212:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:212:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Arg Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:213:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:213:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Phe Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60



(2) INFORMATION FOR SEQ ID NO:214:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:214:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Pro Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Arg Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:215:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:215:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Val Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:216:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:216:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Ser Gly Pro Cys  
1 5 10 15  
Arg Ala Leu Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:217:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:217:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Val Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:218:

(i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:218:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Ser Gly Pro Cys  
1 5 10 15  
Arg Ala Ala Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:219:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:219:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Ile Gly Pro Cys
 1              5              10
Arg Ala Leu Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20              25              30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
                35              40              45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
 50              55              60
```

(2) INFORMATION FOR SEQ ID NO:220:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:220:

```
Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys
 1              5              10
Arg Gly Ala Ile Gln His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys
                20              25              30
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp
                35              40              45
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile
 50              55              60
```

(2) INFORMATION FOR SEQ ID NO:221:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:221:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Gly Ala Ile Arg His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:222:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:222:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Gly Ser Ile Arg His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:223:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:223:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Gly Leu Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:224:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:224:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Gly Ala Ile Tyr His Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Gly Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:225:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

(xi) SEQUENCE DESCRIPTION: SEQ ID NO:225:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
1 5 10 15  
Arg Ala Leu His Asn Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
20 25 30  
Ala Pro Phe Phe Tyr Gly Gly Cys Arg Gly Asn Arg Asn Asn Phe Asp  
35 40 45  
Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
50 55 60

(2) INFORMATION FOR SEQ ID NO:226:

- (i) SEQUENCE CHARACTERISTICS:  
(A) LENGTH: 61 amino acids  
(B) TYPE: amino acid  
(C) STRANDEDNESS: single  
(D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:226:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
 1 5 10 15  
 Arg Ala Leu Phe Lys Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
 20 25 30  
 Ala Pro Phe Phe Tyr Gly Gly Cys Tyr Gly Asn Arg Asn Asn Phe Asp  
 35 40 45  
 Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55 60

## (2) INFORMATION FOR SEQ ID NO:227:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 61 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:227:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
 1 5 10 15  
 Arg Ala Leu Phe Lys Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
 20 25 30  
 Ala Pro Phe Phe Tyr Gly Gly Cys Leu Gly Asn Arg Asn Asn Phe Asp  
 35 40 45  
 Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55 60

## (2) INFORMATION FOR SEQ ID NO:228:

- (i) SEQUENCE CHARACTERISTICS:  
 (A) LENGTH: 61 amino acids  
 (B) TYPE: amino acid  
 (C) STRANDEDNESS: single  
 (D) TOPOLOGY: linear

(ii) MOLECULE TYPE: protein

## (xi) SEQUENCE DESCRIPTION: SEQ ID NO:228:

Glu Val Val Arg Glu Val Cys Ser Glu Gln Ala Glu Thr Gly Pro Cys  
 1 5 10 15  
 Arg Ala Leu Phe Lys Arg Trp Tyr Phe Asp Val Thr Glu Gly Lys Cys  
 20 25 30  
 Ala Pro Phe Phe Tyr Gly Gly Cys Met Gly Asn Arg Asn Asn Phe Asp  
 35 40 45  
 Thr Glu Glu Tyr Cys Met Ala Val Cys Gly Ser Ala Ile  
 50 55 60